DOCUMENT RESUME

ED 301 542 SP 030 691

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TITLE Impact of Higher Program Admissions Standards on Profiles of Entering Teacher Candidates. Program Evaluation Series No. 23.
INSTITUTION Michigan State Univ., East Lansing. Coll. of Education.
PUB DATE Jun 88
NOTE 27p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Standards; *Admission Criteria; Career Choice; Comparative Analysis; Higher Education; Preservice Teacher Education; *Selective Admission; *Student Attitudes; *Student Characteristics; *Teacher Education Programs
IDENTIFIERS *Michigan State University

ABSTRACT

Entry level characteristics of teacher candidates who satisfied higher program admission standards at Michigan State University were compared with those of candidates who did not. The central question of the study was, "Has the introduction of the quota system altered the profile of entering teacher candidates in three general areas: (1) academic credentials; (2) career aspirations; or (3) educational beliefs?" Those who met the standards scored higher on most, but not all, measures of achievement. The two groups expressed similar beliefs and levels of commitment to teaching. (JD)

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ED301542

Research and Evaluation in Teacher Education

Program Evaluation Series No. 23

IMPACT OF HIGHER PROGRAM ADMISSIONS STANDARDS ON PROFILES OF ENTERING TEACHER CANDIDATES

Freeman, Martin, Brousseau, & West

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SP 030691

Publication of ...
The Office of Program Evaluation
College of Education
Michigan State University
June, 1988

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IMPACT OF HIGHER PROGRAM ADMISSIONS STANDARDS ON PROFILES OF ENTERING TEACHER CANDIDATES

Freeman, Martin, Brousseau, & West

Paper originally presented at the annual meeting of the American Educational Research Association, New Orleans, LA., April, 1988.

Abstract

Entry level characteristics of teacher candidates who satisfied higher program admission standards were compared with those of candidates who did not. Those who met the standards scored higher on most, but not all, measures of achievement. The two groups expressed similar educational beliefs and levels of commitment to teaching.

Do Higher Program Admission Standards Alter Profiles of Entering Teacher Candidates?

The spate of commission reports published in 1983 (e.g., National Commission on Excellence in Education, 1983), followed by the Holmes and Carnegie reports in 1986 (Holmes Group, 1986; Carnegie Forum on Education and the Economy, 1986) has placed the need for reforms in teacher education at the forefront of public attention. Unlike the educational reform movement spawned by the Soviet Union's launching of Sputnik in the late 1950's, this call for excellence casts teachers as professional decision makers and not as technicians. As stated in the Holmes report, "Central to the vision are competent teachers empowered to make principled judgments and decisions on their children's behalf" (p. 28).

Some teacher preparation institutions have responded to the call for reform by redesigning their teacher certification programs to enhance the likelihood that their graduates will function as competent professionals. Others have taken deliberate steps to recruit better students and/or to impose higher standards for program entry. A few institutions, including Michigan State University (MSU), have taken both of these measures.

In 1980, Michigan State University introduced four thematic teacher preparation programs as alternatives to the ongoing, more traditional program. The curriculum of each new undergraduate program was organized around a theme

related to an enduring problem in the practice of teaching (e.g., how to account for and build on academic and cultural diversity) and reflected a distinctly different conceptualization of teacher education (see Barnes, 1987). From their inception, these thematic programs were also characterized by a relatively low faculty to student ratio.

In 1985, the number of students applying for admission to teacher education programs at MSU increased sharply and unexpectedly. This dramatic surge in enrollments threatened to undermine the quality and integrity of the new programs. A quota system was, therefore, implemented as an "emergency" response to that threat. And, as an additional measure to curb enrollments, only those students who had junior class standing and were formally admitted to the College of Education were allowed to enroll in teacher education courses.

The basic purpose of this study was to examine the impact of raised admission standards on characteristics of candidates entering Michigan State University's teacher preparation programs. The central question guiding the design of the study was, "Has the introduction of the quota system altered the profile of entering teacher candidates in three general areas (1) academic credentials (2) career aspirations, or (3) educational beliefs?"

The publicity surrounding Vance and Schlechty's (1982) report of their national longitudinal study of high school seniors who ultimately became teachers raised widespread concerns about the academic competence of students entering the teaching profession. According to these authors, "The general pattern of the data...indicates that those most likely to enter and be committed to teaching are drawn from those most likely to score lower on the

SAT" (p. 23). Whereas efforts to raise program admission standards might be expected to address these concerns, Trennepohl and his colleagues (1983) found that increases in minimum grade point requirements did not result in improvements in teacher candidates' basic skills in reading or math. Likewise, McComb (1985) concluded that increasing entry grade point requirements from 2.25 to 2.75 (on a 4-point scale) would not significantly increase ACT scores of students seeking admission to teacher education programs at a large midwestern university. We, therefore, wondered if students who satisfied MSU's higher admission standards would score higher than those who did not on college entrance exams and other indices of academic potential such as (a) the number of college prep courses completed in high school, (b) election to the National Honor Society, or (c) the number of college-level remedial courses they were required to take.

Vance and Schlechty's study also supported a popular opinion that students with relatively weak academic credentials are likely to have stronger commitments to careers in teaching than those with relatively strong credentials. In their words, "A comparison of the committed teachers and the confirmed defectors shows that those with high ability who enter teaching are more likely to leave than those with low ability" (Vance & Schlechty, 1982, p. 24). We, therefore, wanted to know if candidates who satisfy higher admission standards approach careers in teaching in ways that differ from those who do not. Are these students less committed to teaching? Do they have less experience working with school aged youngsters? Do they have different reasons for deciding to become teachers?

Finally, as Feiman-Nemser and Floden (1986) argue,"...teacher education must build on or rebuild what teachers and teachers-to-be already believe about their work" (p. 523). We, therefore, wanted to know if the educational beliefs of entering teacher candidates who satisfy higher admission standards differ from the beliefs of candidates who do not. Do candidates who satisfy higher admission standards have different beliefs about (a) students, (b) the curriculum, (c) the social context of education, or (d) pedagogy? Do these students have different priorities with regard to the general goals of schooling?

Procedure

The MSU Quota System: The quota system at Michigan State restricts the number of candidates admitted to each elementary and secondary teacher certification program in a given academic term. The formula used to rank students in each certification area (e.g., elementary education, secondary English) centers on cumulative grade point averages at the time of application, with adjustments for post-BA students, transfer students, and minorities. Although the impact of the fixed quota system varies somewhat from one area of certification to the next (e.g., more likely to be restrictive in secondary English than in secondary math or science because of the differential numbers of applicants in these fields) and from one term to the next, this policy has the effect of substantially raising admission standards across virtually all certification programs. Prior to the policy, for example, a minimum cumulative

grade point average of 2.0 was required for admission to teacher certification programs. Following the introduction of the policy, the grade point averages of students who are admitted in a given term are almost always higher than 2.8. Moreover, in a typical term, more than one-half of all applicants are denied admission.

Design of the Study: Two distinct samples of MSU students served as the focus of this study. The first sample included 223 students who completed the "MSU Entering Teaching Candidates Survey" during fall term of 1985 (the year before the quota system was introduced). Using the cut-off points established for each certification program during the fall, 1987 admission process, members of this sample were sorted into two subgroups - those who would and those who would not have been admitted to a teacher preparation program when judged by the fall, 1987 standards. We will refer to these two subgroups as the "1985 admits" and "1985 denials." The second sample consisted of 129 students who completed the same entry survey during fall term of 1987 (one year after the quota system was introduced). We will refer to this group of students as the "1987 admits."

As noted earlier, at the same time as the quota system was introduced, enrollments in teacher education courses were restricted to students with junior class standing who were formally admitted to the College of Education. Therefore, in an effort to make the 1985 sample parallel to the 1987 sample, we eliminated 55 students from the 1985 sample because they were not within one term of junior class standing at the beginning of fall term, 1985. In addition, 11 students were excluded because records of the data considered in

the admissions process were incomplete. With these exclusions, the "1985 admits" group consisted of 47 students; the "1985 denials" group included 110 students.

As the first step in the analysis of data, we compared responses of students in the "1985 admits" and "1985 denials" subgroups across each of the dependent variables cited in the research questions (e.g., reasons for wanting to become a teacher). We then attempted to confirm those differences that were identified by comparing students in the "1985 denials" group with their counterparts in the "1987 admits" group.

The Survey Instrument: Most of the dependent variables considered in this study were defined by student responses to questions on the entering teacher candidate survey; other data were derived from university records. The "MSU Entering Teacher Candidate Survey" was designed by a group of teacher education faculty at Michigan State University and has been used in several other research studies (e.g., Book and Freeman, 1986). Students complete the entry survey during the first week of an introductory educational psychology course which is the first required course for both elementary and secondary candidates.

Dependent variables are represented by distinct sections of the survey. The section of the survey focusing on educational beliefs, for example, consists of 53 statements that provide a representative sample of educational beliefs within each of five general categories - beliefs about students, the curriculum, the social context of education, pedagogy, and teachers. Responses

to questions across all sections of the survey provide a comprehensive profile of students entering MSU's teacher certification programs.

Sample Characteristics - Demographic Differences Among Groups: Table 1 describes salient characteristics of the three groups of students who participated in the study. Two of the most important figures in this table are the sample sizes for the 1985 denials and 1985 admits groups. As these statistics indicate, only 47 of the 157 candidates in the 1985 sample (29.9%) would have satisfied the 1987 program admission standards!

Across all three groups, the participants were predominantly female (85%) and white (96%). Class standings varied somewhat from one group to another. The proportion of juniors in the 1987 admits groups (80%) was significantly higher than the corresponding figure for the 1985 denials group (65%). This difference can be readily traced to the change in requirements for enrolling in teacher education courses described earlier. The percentage of students seeking elementary or secondary teaching credentials also varied across groups. The proportion of elementary candidates was higher in the 1987 admits group than in the 1985 denials group (54% vs. 39%); the reverse was true for secondary candidates (26% in 1987 vs. 41% in the 1985 denials group). These differences suggest that the new admission standards were more rigorous for secondary candidates than for elementary candidates.

Insert Table 1 about here

Analyses: Chi-square tests of independence and t-tests were used to compare candidates in the 1985 denials group with their counterparts in the 1985 and 1987 admits groups. T-tests were used to determine if there were significant differences in mean levels of response to items in various subscales (e.g., total number of years of high school coursework in English, math, science, history, and foreign languages). Chi-square tests were used to determine if there were significant differences in responses to individual items within the subscales.

Decision Rule for Reporting Differences: The large number of ex post facto statistical comparisons (approximately 120 contrasts) prompted the need for a decision rule that would determine which between-group differences we would cite in this report. Because the design of the study provided an opportunity to use the 1987 data to confirm observed differences between the two 1985 groups, we decided the rule should focus on consistencies across the two sets of comparisons. We, therefore, decided to report differences between the two 1985 groups that were statistically significant with alpha fixed at .10 AND confirmed by comparisons of the 1985 and 1987 groups with alpha fixed at .05.

Results

(1) Do Teacher Candidates Who Satisfy Higher Program Admission Standards Have Better Academic Credentials Than Those Who Do Not?

Differences in College Entrance Examination Scores: College entrance

examination test scores were available for 214 of the 286 students (75%) who participated in this study. When applying for admission to Michigan State University, 15 of these students took the Scholastic Aptitude Tests (SAT), 149 took the American College Testing Program Exam, and 51 completed both exams.

As shown in Part 1 of Table 2, mean scores for the two groups of candidates who satisfied the 1987 program admission standards were higher than mean scores for candidates in the 1985 denials group on both of the SAT subtests. Moreover, despite the limited sample sizes, differences on the verbal subtest satisfied the decision rule for consistency decribed earlier (alpha = .10 for the first contrast and .05 for the second). However, as an examination of the p-values presented in Table 2 will confirm, differences on the SAT math subtest failed to satisfy the criteria suggested by this rule.

Insert Table 2 about here

As shown in part 2 of Table 2, mean scores for the 1985 and 1987 admit groups were higher than mean scores of candidates in the 1985 denials group across all four ACT subtests. Differences on the ACT math, social studies, and natural science subtests satisfied our criteria for consistency; differences on the English subtests did not.

Contrasts Across Other Measures of Academic Potential: Analyses of differences between the 1985 denials group and 1985 and 1987 admits groups also considered three other measures of academic potential - election to the

National Honor Society, extent of college prep course work, and the number of remedial courses candidates were asked to take in college. Among those who attended high schools with chapters of the National Honor Society, the percentage of students elected to that Society were 41.2%, 53.5%, and 65.0% for the 1985 denials, 1985 admits, and 1987 admits groups respectively. Although the difference between 1985 denials and 1987 admits groups was statistically significant [X^2 (1, N = 225) = 11.85, p = .001], the difference between the 1985 denials and 1985 admits groups was not [X^2 (1, N = 145) = 1.39, p = .239].

A measure of college prep course work was derived by summing the number of years of high school course work candidates reported they completed in English, mathematics, science, history/social studies, and foreign languages. Since the upper limit was four years in each subject area, the highest possible score was 20 years. According to the results of two-tailed t-tests focusing on this measure, the mean level of college prep course work did not vary to any significant extent across the three groups. The means for the 1985 denials, 1985 admits, and 1987 admits groups were 14.4 (n = 107), 13.9 (n = 47), and 14.8 (n = 126) respectively. T-values were 1.34 (p = .184) for the 1985 denials vs. 1985 admits contrast and 1.14 (p = .256) for the second contrast.

A series of three questions asked candidates to indicate if remedial courses in mathematics, reading, or writing had been recommended or required for their college programs. The total number of areas candidates cited

(highest possible = 3) represented our measure of college-level remedial course work. The means for this measure were 0.80 (n = 109), 0.58 (n = 43) and 0.58 (n = 126) for the 1985 denials, 1985 admits, and 1987 admits groups respectively. As these figures suggest, candidates in the denials group did not take a significantly larger number of college-level remedial courses than candidates in the two admits groups. The t-value for the 1985 denials vs. 1985 admits contrast was 1.15 (p = .252); the t-value for the 1985 denials vs. 1987 admits contrast was 1.67 (p = .097).

(2) Do Candidates Who Satisfy Higher Program Admission Standards Approach Careers in Teaching in Ways That Differ From Those Who Do Not?

Similarities in Current Levels of Commitment to Careers in Teaching: Two questions on the entry survey focused directly on the question of candidates' current levels of commitment to careers in teaching. The first asked respondents to describe "where teaching fits into (their) current career plans." The second read, "If you are successful in finding a job, what is your 'best guess' of the length of time you will work as a teacher?" As shown in Table 3, the patterns of responding to these two questions were similar across all three groups. For example, approximately 40% of all participants checked, "teaching is the only career I am considering at this point in time" when responding to the first question.

Insert Table 3 about here

Similarities in Prior Teaching Experiences: A set of six questions on the entry survey asked students to identify teaching experiences they had with younger children (grades K-8) while in high school. The teaching activities that were cited were (a) camp counselor, (b) coach of youth sports, (c) Sunday school teacher, (d) swimming instructor, (e) other teaching activities involving only one child (e.g., tutoring, piano lessons), and (f) other teaching activities involving groups of children.

If one assumes that high school students who are seriously considering careers in teaching are more likely to pursue these teaching experiences than those who are not, this set of items should provide a measure of one's level of interest in teaching during high school. With this assumption in mind, we compared the total number of activities individuals in each group cited (highest possible total = 6). Because similarities in the mean number of activities across the three groups were striking [1.6 (n = 109), 1.5 (n = 46), and 1.5 (n = 129) for the 1985 denials, 1985 admits, and 1987 admits groups respectively], we elected not to conduct any t-tests.

Similarities and Differences in Reasons for Wanting to Become Teachers: In another set of items on the entry survey, participants were asked to identify statements describing factors that played a significant role in their decision to become a teacher (e.g., "I love to work with children"). In an effort to

determine if there were any characteristic differences in candidates' motivations for teaching, we compared the ways students in the denials and admits groups responded to each statement. In general, the patterns of responding were similar across the three groups. However, responses to one of the statements did vary among the denials and admits groups. As shown in Table 3, a higher proportion of students in the denials group reported they had decided to pursue careers in teaching because they were not successful in courses related to their first choice of careers.

(3) Do Educational Orientations and Beliefs Vary Among Candidates Who Do and Do Not Satisfy Higher Program Admission Standards?

Similarities in Educational Beliefs: The 1985 admits and 1985 denials groups responded in remarkably similar ways to the 53 items in the inventory of educational beliefs. In fact, even with alpha fixed at the liberal level of .10, differences among students in the 1985 sample who did or did not satisfy the 1987 admission standards were statistically significant for only four of the 53 items focusing on educational beliefs. These figures virtually match the frequency of significant differences one would expect by chance alone. The first two items in Table 4 describe between-group similarities that characterized this set of comparisons. These particular items were selected for illustration because they yielded the most consistent response patterns across all three groups.

Insert Table 4 about here

In contrast to the 1985 comparisons, differences between the 1985 denials and 1987 admits groups were statistically significant for nine of the 53 comparisons (alpha = .05). Given the results of the first set of analyses, we were surprised to learn that two of these contrasts confirmed observed differences between the 1985 denials and 1985 admits groups. These contrasts are, therefore, presented in part 2 of Table 4.

Similarities in Orientations Toward Academic Goals of Schooling: Because they have enjoyed higher levels of academic success, we predicted that students who satisfied the 1987 program admissions standards would have stronger orientations toward academic goals of schooling than those who did not. However, as the data in Table 5 clearly indicate, this conjecture was not supported by the findings. Rather, these comparisons illustrate the consistent similarities in responses that were characteristic of nearly all of the survey items dealing with educational orientations and beliefs.

Insert Table 5 about here

Discussion and Conclusions

The results of this study provide a relatively straightforward answer to the basic research question we posed in the introduction. When compared with their counterparts who would not have been admitted to a teacher education program in 1987, candidates at Michigan State University who satisfied the 1987 program admission standards (a) scored higher on most, but not all, measures of academic achievement, (b) demonstrated comparable levels of commitment to teaching, and (c) expressed similar educational beliefs. It would appear that grade point averages at program entry are not related to one's level of commitment to teaching, nor to the entry-level beliefs candidates express about students, the curriculum, the social context of education, or pedagogy. These results are, therefore, consistent with Tabachnick and Zeichner's (1984) premise that the ways teacher candidates think about teaching have been shaped in very similar ways by the thousands of hours they have all spent in schools as K-12 students.

There are significant limitations in the generalizability of these findings. First and foremost, the impact of increased admission standards was examined in only one university setting. In addition, although an applicant's grade point average is the most widely used admission criterion (Laman & Reeves, 1983), there are clear trends (a) toward also using standardized tests as indices of competence, and (b) for state legislatures to play a more prominent role in setting admission standards (Applegate, 1987). At present, neither of these conditions apply at MSU.

Nevertheless, this study provides evidence that higher program admission standards will improve teacher candidates' academic competence to some extent, yet will not diminish overall levels of enthusiasm for teaching nor have a perceptible impact on entry-level profiles of educational beliefs.

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Table 1

Sample Characteristics

	1985 Denials (n = 110)	1985 Admits (n = 47)	1987 Admits (n = 129)
(1) Gender:			
(a) females	83.6%	76.6%	87.6%
(b) males	16.4	23.4	12.4
(2) Ethnic Groups:			
(a) white	100.0%	89.4%	94.5%
(b) all others	0.0	10.6	5.5
(3) Class Standing:			
(a) sophomores	15.5%	6.5%	1.6%
(b) juniors	64.5	71.7	79.8
(c) seniors	12.7	17.4	14.7
(d) postbaccalaureate	7.3	4.3	3.9
(4) Certification/Endorsement:			
(a) special education	9.3%	2.1%	14.0%
(b) child development & teaching	10.2	10.6	6.2
(c) elementary education	38.9	53.2	53.5
(d) secondary education	40.7	34.0	26.4

Table 2

Contrasts in College Entrance Examination Test Scores

	1985 Denials	1985 Admits	1987 Admits	85 vs 85 t-test	(p)	85 vs 87 t-test	(p)
SAT Scores	(n = 25)	(n = 10)	(n = 30)				
Verbal							
Mean	394	507	463	3.41	(.002)	2.51	(.015)
SD	80.6	105.9	115.7				
Math							
Mean	442	537	478	2.51	(.017)	1.22	(.228)
SD	104.5	91.4	110.8				
ACT Scores	(n = 80)	(n = 30)	(n = 90)				
English							
Mean	19.4	20.8	21.7	1.53	(.129)	3.82	(.000)
SD	3.9	4.6	3.8				
Math							
Mean	19.1	23.2	21.6	3.00	(.003)	2.66	(.009)
SD	6.8	5.4	5.8				
Soc. Stud.							
Mean	18.3	20.8	21.2	1.85	(.067)	3.07	(.002)
SD	6.1	6.4	6.0				
Nat. Sci.							
Mean	21.8	24.1	24.2	2.42	(.017)	3.14	(.002)
SD	4.4	4.5	5.2				
Composite							
Mean	19.8	22.3	22.3	2.75	(.007)	3.79	(.000)
SD	4.2	4.3	4.3				

Table 3

Contrasts in Approaches to Careers in Teaching

	1985 Denials	1985 Admits	1987 Denials
(1) Where does teaching fit into your current career plans?	(n = 108)	(n = 45)	(n = 126)
(a) only career I am considering	41.7%	31.1%	42.1%
(b) my first choice of careers	45.4	48.9	46.8
(c) not my first choice of careers	10.2	15.6	7.9
(d) no intention to teach	2.8	4.4	3.2
X^2, 3df = 2.05, p = .562 for 1985 denials vs. 1985 admits, and 0.39, p = .943 for 1985 denials vs. 1987 admits.			
(2) "Best guess" of the length of time you will work as a teacher?	(n = 93)	(n = 36)	(n = 113)
(a) less than five years	4.3%	8.3%	8.0%
(b) 5 to 10 years	35.5	36.1	33.6
(c) more than 10 years	60.2	55.6	58.4
X^2, 2df = 0.88, p = .645 for 1985 denials vs. 1985 admits, and 1.16, p = .645 for 1985 denials vs. 1987 admits.			
(3) Percent who said a significant reason for wanting to become a teacher was their lack of success in courses that would have prepared them for their first choice of careers.	(n = 91) 23.1%	(n = 36) 8.3%	(n = 110) 4.5%
X^2, 1df = 2.76, p = .097 for 1985 denials vs. 1985 admits, and 13.58, p = .000 for 1985 denials vs. 1987 admits.			

Table 4

Similarities and Differences in Educational Beliefs

Similarities:

	Agree	Neutral	Disagree
(a) Students learn more when they work alone than when they work in groups.			
- 85 denials (n = 109)	7.3%	32.1%	60.6%
- 85 admits (n = 46)	6.5	26.1	67.4
- 87 admits (n = 129)	4.7	31.8	63.6

X^2, 3df = 0.75, p = .862 for 1985 denials vs. 1985 admits, and
1.57, p = .665 for 1985 denials vs. 1987 admits.

(b) When making educational decisions, teachers should rely on what "feels right" instead of "what available information suggests is right" whenever these two sources conflict.			
- 85 denials (n = 107)	42.9%	39.3%	17.7%
- 85 admits (n = 46)	43.4	41.3	15.2
- 87 admits (n = 127)	47.2	37.0	15.8

X^2, 4df = 0.84, p = .933 for 1985 denials vs. 1985 admits, and
1.52, p = .823 for 1985 denials vs. 1987 admits.

Differences:

	Agree	Neutral	Disagree
(a) Schools should function as agents to change society rather than as reinforcers of the status quo.			
- 85 denials (n = 107)	28.0%	57.0%	15.0%
- 85 admits (n = 46)	45.7	45.7	8.7
- 87 admits (n = 129)	49.6	42.6	7.8

X^2, 4df = 8.06, p = .090 for 1985 denials vs. 1985 admits, and
13.89, p = .000 for 1985 denials vs. 1987 admits.

(b) When working with slow learners, teachers should focus nearly all of their instruction on "minimum competency" objectives. Chi-squares:			
- 85 denials (n = 108)	13.9%	25.9%	60.2%
- 85 admits (n = 46)	13.0	13.0	73.9
- 87 admits (n = 127)	3.9	29.1	66.9

X^2, 3df = 8.78, p = .067 for 1985 denials vs. 1985 admits, and
14.08, p = .003 for 1985 denials vs. 1987 admits.

Table 5

Similarities in Orientations Toward Academic Goals of Schooling

	1985 Denials (n=110)	1985 Admits (n=47)	1987 Admits (n=126)
- Percentage who rated "promoting academic development" as the most important of four general goals of schooling.	36.4%	40.0%	46.4%
- Percentage who, when given three choices, said their greatest sense of satisfaction as a teacher would result from, "being recognized for my ability to promote high levels of academic achievement."	29.1	34.0	25.6
- Proportion who, when given four choices, said, "communicating knowledge at a level students understand" will be most essential to my success as a teacher.	37.4	37.0	33.9
- Proportion who, when given three choices, said they hope their students will remember them 20 years from now as a teacher who "challenged students to perform at their highest possible levels of academic achievement."	41.3	36.2	37.2
- Percentage who agreed or strongly agreed with the statement, "The most important measure of a good teacher is that teacher's ability to enhance the academic achievement of students."	60.2	56.5	61.1

Note: The results of Chi-square tests of independence indicate that none of the denials-admits comparisons is significant when the probability of a Type I error is set at .05.